

This is an extract from:

Environmentalism in Landscape Architecture

edited by Michel Conan

published by

Dumbarton Oaks Research Library and Collection

Washington, D.C.

as volume 22 in the series

Dumbarton Oaks Colloquium on the History of Landscape Architecture

© 2000 Dumbarton Oaks

Trustees for Harvard University

Washington, D.C.

Printed in the United States of America

www.doaks.org/etexts.html

*Environmental Therapy for Soil and Social
Erosion: Landscape Architecture and
Depression-Era Highway Construction in Texas*

Gregory T. Cushman

Politically speaking, the best of all landscapes, the best of all roads, are those which foster movement toward a desirable social goal.

—John Brinkerhoff Jackson, *Discovering the Vernacular Landscape*

The Great Depression of the 1930s dramatically affected life in Texas. Although economic downturn arrived more slowly and with less obvious severity in Texas than in the industrial states of the Northeast, factories, stores, and banks still shut their doors, crop and livestock prices plummeted, and many families lost nearly everything. During the winter of 1933 and 1934, one-fifth of Texans—over one million people—needed government relief payments to survive. State and local governments in Texas, forced to slash their budgets, could not meet this massive demand for relief. Many county governments fell into default under the debt they had accumulated to build local roads. Meanwhile, severe drought and flood besieged those who depended on production from the land and the rural transport infrastructure, as a rising tide of rural workers and tenant farmers from Texas joined the first phases of an exodus from America's rural heartland. The disasters of this decade tangibly threatened to erode the very foundations of rural society.¹

The Texas Historical Commission, National Register Division, and the Texas Department of Transportation, Environmental Affairs Division, provided extensive support for this project. I would like to thank Barbara Stocklin, John Murphy, Daniel Harris, Pat St. George, Dwayne Jones, and especially Rick Mitchell at these institutions for their assistance in completing this essay. Ann Cooke at the Texas Department of Transportation, Travel and Information Division, kindly provided assistance with the photographs. I also wish to recognize Michel Conan, the director of Studies in Landscape Architecture at Dumbarton Oaks, and Richard Graham, Bob Olwell, Jim Sidbury, Matt Childs, and Mauricio Tenorio of the Department of History, University of Texas at Austin, for their helpful comments.

¹ According to U.S. Census figures, rapid population decline for most of rural Texas began after 1940, but even relatively small population dislocations could easily be interpreted as contradictions of progress. See Lionel Patenaude, "The New Deal: Its Effect on the Social Fabric of Texas Society, 1933–1938," *The Social Science Journal* 14, no. 3 (1977): 51–60; George Brown Tindall, *The Emergence of the New South, 1913–1945* (Baton Rouge: Louisiana State University Press, 1967), 354–55.



1. Proposed extension of a state highway in Red River County, Texas, ca. 1936
(photo: courtesy of the Texas Department of Transportation)

Almost from the moment of the Great Crash of October 1929, the federal government gave highway engineers access to an elaborate work-relief apparatus and unprecedented funding so they could provide “therapy” to a wounded nation. Contrary to common wisdom, from the beginning of the Depression, governments at all levels acted aggressively to increase public-works spending to stop economic decline and provide employment. For example, the Emergency Act of 20 December 1930 officially designated all federal-aid road construction as emergency spending and temporarily waived the requirement that all states match federal highway funds dollar for dollar. Texas representative John Nance Garner (soon to be Franklin D. Roosevelt’s vice presidential candidate) led through the U.S. Congress the Emergency Relief and Construction Act of 1932 that gave more money to public works (\$322 million) than to the controversial Reconstruction Finance Corporation (\$300 million). The New Deal merely reinforced this commitment to public works.²

The engineers of the Texas Highway Department (THD) and thousands of local men and women activists in Texas seized this funding opportunity to respond to the environmental, economic, and social problems that troubled their state during the Depression. The

² Harold L. Ickes, *Back to Work: The Story of PWA* (New York: Macmillan, 1935), 81–82; G. G. Edwards, memorandum to all resident and division engineers, 12 February 1931, Texas Highway Department (THD), administrative circulars, Texas Department of Transportation, General Services Division, Records Management, Austin, Texas (hereafter cited as THDAC); William J. Barber, *From New Era to New Deal: Herbert Hoover, the Economists, and American Economic Policy, 1921–1933* (Cambridge: Cambridge University Press, 1985), 80–82, 147–55, 178–79, 184.

engineers, in particular, enthusiastically took on the role of landscape architects and implemented specific forms of highway construction and roadside development with the conviction that modern technologies, particularly those associated with the automobile, could be expertly adapted to serve the needs of rural inhabitants. In doing so, these highway engineers applied perspectives of the human relationship to the environment from outside the traditional confines of their profession that not only predated the Depression but also seemingly contradicted the technological triumphalism that had brought their profession to prominence. Their environmentalism stemmed from two distinct social groups—amateur activists who carried forward the American beautification movement and professional landscape architects who promoted the concept of a democratic middle landscape.³ Texas highway builders carried plans into practice that were designed to root modern, high-speed roadways in an agrarian vernacular landscape and to encourage both rural stability and progress. Their designs accomplished this seeming contradiction by pointing back to the wholesome relationship between Texas pioneers and nature and forward toward widespread employment and renewed prosperity while rejecting radical change.

Highway engineers as landscape architects had high-minded intentions for roadway construction in Texas, but this was only part of the story. They were able to implement their program because they garnered a broad range of support, including the funds, land, labor, and political mandate to accomplish their goals and establish their status as professionals. In the process, they had an immense impact on the landscape and political arena in Texas—an impact with important implications for professional landscape architects today who share similar environmental concerns.

The Golden Age of the Engineer

Highway promoters in Texas almost immediately recognized increased federal works spending as their chance to bring the state road system up to a national standard. As one of the poorest states, Texas had not undertaken highway development with much vigor, despite the activity of its Good Roads movement from before the turn of the century. Even though it had the largest state highway system in the country by the late 1920s, Texas still had vast rural areas with nothing but unimproved earth roads. Highway propagandists published a flurry of photographs during this time that showed the poor state of these roads (Fig. 1). “Get the farmer out of the mud” was a mantra of rural politics, since almost nothing garnered more local votes than a new road. By building roads, civic leaders, government officials, and civil engineers maintained, Texas could also more easily escape from the economic morass of the Depression.⁴

³ Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964); Peter G. Rowe, *Making a Middle Landscape* (Cambridge, Mass.: MIT Press, 1991); Vera Norwood, *Made from This Earth: American Women and Nature* (Chapel Hill: University of North Carolina Press, 1993); Steven Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison: University of Wisconsin Press, 1981).

⁴ John David Huddleston, “Good Roads for Texas: A History of the Texas Highway Department, 1917–1947” (Ph.D. diss., Texas A & M University, 1981), 25–27; Gibb Gilchrist, *Texas Highway Department, 1927–1937* (n.p., 1937), 7–8, 38.



2. *“What to Do?” Locals inspecting flood damage to a paved road in Dallas County, Texas, ca. 1936 (photo: courtesy of the Texas Department of Transportation)*



3. *National Youth Administration work crew at Chisholm Trail Roadside Park, Wilbarger County, Texas, ca. 1937 (photo: courtesy of the Texas Department of Transportation)*

Roadway construction fulfilled several other goals for its promoters. If properly done, roadway construction would prevent soil erosion, “the great highway destroyer,” and save millions of precious dollars on maintenance and reconstruction (Fig. 2).⁵ Because of the droughts, dust storms, and floods of the “dirty thirties,” concern over soil erosion and the social erosion it caused became a national obsession during the decade. In fact, fear of erosion helped to establish the influence of professional ecologists and Soil Conservation Corps agronomists devoted to the idea of stable climax plant communities consisting of indigenous flora.⁶

Road construction would also prevent emigration or unrest among the unemployed by providing useful work “of the best possible kind . . . out of doors in the fresh air and sunshine.” Such work would create good citizens attuned to nature, the past, and the benefits of hard work (Fig. 3). Above all, good roads promised to end rural isolation and bring faster mail delivery, quality consolidated schools, better medical care, and urban tourists with disposable income to the countryside.⁷ In a 1937 interview with *Farm and Ranch Magazine*, the president of Texas Power and Light, John W. Carpenter, related his own experience to promote this ideology of work-relief road construction and technological progress:

I left the farm for the same reason that thousands of other young men, also young women, left to go to the city. I was not obtaining on the farm those things I desired. Farm income was low and advantages were few. The farmer group of our citizens, the foundation of our Nation, was a neglected group. It always had been neglected, not only by business men, but by the Government itself. . . . I am an advocate of farm-to-market roads. I think we are spending too great a portion of our highway money on trunk lines and too little on the roads that lead past the farmer's house. . . . The farmer is entitled to every help and convenience it is possible to give him. He should be provided with the advantages of electric current and other comforts and conveniences as cheaply as possible. . . . Many other improvements will follow, all of which will have the tendency to make rural life attractive to the young people of the farm family. We cannot continue to drain the country of its virile youth and exist as a Nation. In order to keep young people on the farm we must not only bend every effort to increase farm income, but we must make rural life as attractive as possible by eliminating drudgery and by granting farmers the

⁵ Jac L. Gubbels, *American Highways and Roadsides* (Boston: Houghton Mifflin, 1938), 9.

⁶ Donald Worster, *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, 1979); idem, *Nature's Economy: A History of Ecological Ideas*, 2d ed. (Cambridge: Cambridge University Press, 1994), chaps. 11, 12; Ronald C. Tobey, *Saving the Prairies: The Life Cycle of the Founding School of American Plant Ecology, 1895–1955* (Berkeley: University of California Press, 1981).

⁷ Ickes, *Back to Work*, 8, 82. See “Looking Ahead,” *Stephenville Empire-Tribune* (Texas), 15 January 1932, p. 6; Works Progress Administration (WPA), *Final Report on the WPA Program, 1935–43* (Washington, D.C., 1943), 49; William W. Bremer, “Along the ‘American Way’: The New Deal's Work Relief Programs for the Unemployed,” *Journal of American History* 62, no. 4 (1973): 636–52; Bruce E. Seely, *Building the American Highway System: Engineers as Policy Makers* (Philadelphia: Temple University Press, 1987), 1, 3, 35.

consideration they are entitled to. . . . If the strength of the Nation lies in its farm homes, then *let us strengthen the ties that bind* farm raised boys and girls to the farm home. Let us remove those conditions which induced me, as well as thousands of others, to desert the soil which we loved in order that we might secure some of the things we had dreamed of and desired.⁸

In essence, improved roads would, according to this argument, remedy any number of rural ills.

Although subsequent histories of work relief have tended to ignore it, road construction during the Depression represented the largest public-works program ever undertaken by the federal government, and roadwork was especially important in Texas. The sheer amount of road construction accomplished in Texas under the ideological rubric of progress during this period is quite impressive. Compared to the rest of the country, Texans fared incredibly well as recipients of federal relief. Work on roads, streets, and highways was the single most significant aspect of Works Progress Administration (WPA) activity between 1935 and 1943.⁹ In Texas, the WPA built 31,836 miles of new and improved roadway, 7,686 new and improved bridges and viaducts, 34,431 new and improved culverts, and spent \$159.6 million on roadway construction (39.8 percent of total WPA spending in Texas). In nearly every county in the state, roadway construction projects employed a large proportion of those without work, tangibly affected the local economy, and noticeably changed the rural landscape.¹⁰ On most of these projects, road workers erected markers to record their contribution to American progress; these remain today on many road sections as recognizable relics of an era that lionized the construction of new roads.¹¹

Texas roadway engineers used this work-relief bonanza to gain increased professional control over the construction and placement of road projects. During the 1930s, they increasingly designed highways for speed, safety, and “all-weather” use to accommodate the rising traffic load of faster automobiles. As one of its most important projects, the THD spent almost \$20 million between 1930 and 1944 to build overpasses and underpasses to eliminate dangerous railroad crossings throughout the state.¹² The vast majority of road construction in Texas

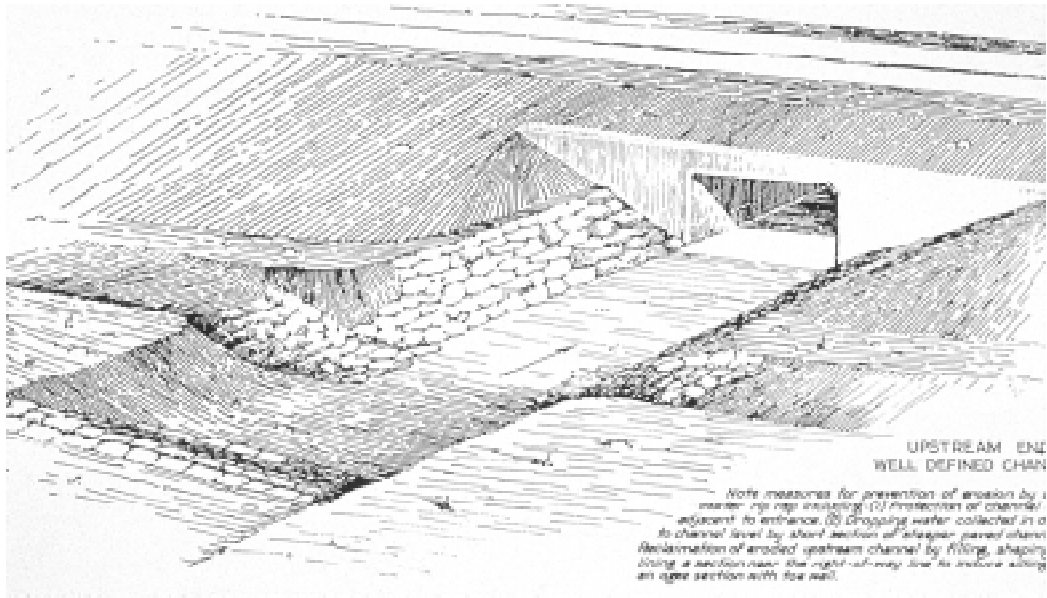
⁸ John W. Carpenter, “Lateral Roads Country’s Need,” *Stephenville Empire-Tribune*, 20 August 1937, p. 5, emphasis added. This interview was published widely in local newspapers throughout Texas.

⁹ WPA, *Report on the Works Program* (Washington, D.C., 1936), 85–101; Seely, *Building the American Highway System*, 87–91.

¹⁰ WPA, *Final Report on the WPA Program*, 124, 126–27, 131, 135; Gregory T. Cushman, “Depression-Era, Work-Relief Road Projects in Bastrop County, Texas,” report to the Texas Historical Commission, August 1996; Gregory T. Cushman, “State Highway 36 and Depression-Era, Work-Relief Road Construction in Hamilton County, Texas,” report to the Texas Historical Commission, August 1997; see also the database of extant Depression-era road structures in Texas compiled by the Texas Department of Transportation, Environmental Affairs Division.

¹¹ For marker specifications, see THD, *Standard Specifications for Road and Bridge Construction*, M-1-39 (n.p., 1938).

¹² THD, *Specifications for Design of Structures* (n.p., 1935); Gilchrist, *Texas Highway Department*, 75, 113–26; THD, *Twelfth Biennial Report* (n.p., 1940), 26–33.



4. Construction plan for mortar riprap erosion-control structures on the upstream end of a well-defined channel, late 1930s (drawing: courtesy of the Texas Department of Transportation)

during this period, from the simplest graveling projects to the most complicated bridges and causeways, followed a detailed plan with standard specifications, many of which explicitly showed ways to prevent highway erosion (Fig. 4).¹³ Highway engineers capitalized on the perception that their scientific plans removed road spending from the scandal-ridden world of patronage politics and boosterism.¹⁴ With this view in mind, the federal-aid program inaugurated the first national road and traffic survey in March 1936. By the end of the decade, the THD had completed the first state traffic map and comprehensive set of county road maps to guide its future construction plans.¹⁵ In 1932, the state voluntarily assumed the bonded debt of its counties for roadway construction and no longer required them to contribute to state projects.¹⁶ Since many towns and small communities had also lost the ability to afford road maintenance, in 1937 the THD followed a federal mandate and took over road construction and maintenance in all rural towns with populations under 2,500 and municipal roads where houses were more than two hundred feet apart.¹⁷

¹³ THD, Road Design Department, *Book of Standard Specifications and Special or Modified Mimeographed Specifications in General Use* (n.p., 1936). For a good example of a WPA project on the county road system that followed THD standards, see WPA work project, Runnels County, Tex., National Archives, project folders, no. 15828, microfilm.

¹⁴ Seely, *Building the American Highway System*, 3–5, 23, 72; Gubbels, *American Highways and Roadsides*, 28.

¹⁵ WPA, *Report on the Works Program*, 49–50; Seely, *Building the American Highway System*, 91–92; Ellis L. Armstrong, ed., *History of Public Works in the United States, 1776–1976* (Chicago: American Public Works Association, 1976), 83–84; THD, *Eleventh Biennial Report* (n.p., 1938), xxv–xxvi.

¹⁶ Gilchrist, *Texas Highway Department*, 13, 176.

¹⁷ T. H. Webb, “National Recovery Municipal Projects,” circular letter to all division engineers, 28 September 1937, THDAC.

During the Depression, the THD moved to centralize administration and construction of rural roads under its own professional engineers with the support of local citizens and federal officials. This centralization movement culminated in 1938 when the THD obtained direct control over WPA road construction. Until the WPA was disbanded in 1943 and road construction came to a halt during World War II, the THD received and approved individual road construction proposals from all WPA districts and then made statewide proposals to central WPA administrators for blanket approval.¹⁸ Echoing the leaders of the American technocracy movement, state highway engineer Gibb Gilchrist declared, "Any other policy must result in chaos."¹⁹

Landscape Architecture on Texas Highways

Despite their deification of the American road, highway builders in Texas were aware that their handiwork could devastate the pastoral quality of the rural Texas landscape, detract tourists from visiting, and erode their rural political support. Such concerns made them receptive to the ideas that were then being advanced by promoters of highway beautification. In response to their advocacy, Texas highway engineers accepted a mission that went far beyond providing work relief or building functional roads: they learned how to adapt Depression-era road construction to the values and techniques of professionalized landscape architecture.

This action had a number of beginnings. According to the most often repeated official history, state highway engineer Gibb Gilchrist overcame his bias against the "European" practice of planting trees along roadways thanks to the lobbying of Judge Walter R. Ely from Abilene in 1929. Ely served on the three-member State Highway Commission from 1926 to 1934, led the professionalization of the THD, and, according to Gilchrist, "worked on me for twelve months until he sold me on the idea of preserving trees. I was like the bashful lover; when I did fall, I fell hard."²⁰ Under Gilchrist's leadership, the THD inaugurated a systematic policy to save existing trees and scatter wild flower seed within the state highway right-of-way, and it established the Bureau of Roadside Development in 1931 to

¹⁸ Julian Montgomery, "W.P.A. Projects," circular letter no. 63-48 to all division engineers, 27 September 1938, THDAC; Julian Montgomery, "W.P.A. Projects," circular letter no. 58-38 to all division engineers, 4 October 1938, THDAC; Julian Montgomery, "Maintenance Betterment Program, Joint W.P.A. Projects," maintenance order no. 43-38 to all division engineers, 9 November 1938, THDAC; D. C. Greer, "State W.P.A. Projects and Special Maintenance Projects," administrative order no. 59-40, 23 August 1940, THDAC; Julian Montgomery, "Road Design: Inauguration and Procedure in Development of W.P.A. Projects," circular letter no. 10-38, to all district engineers, 29 November 1938, THDAC; D. C. Greer, "SHD-WPA Instructions No. 2, Preparation of WPA Project Proposal Forms," 17 September 1940, THDAC.

¹⁹ Gilchrist, *Texas Highway Department*, 14; cf. Howard Scott, *Science versus Chaos!* (New York: Technocracy, 1933).

²⁰ "Address of Mr. Gib [sic] Gilchrist: 'Beautifying the Highways for the Texas Centennial' to the 36th Annual Convention of the Texas Federation of Women's Clubs, Austin," *Texas Federation News*, December 1933, pp. 9-11; "Ely Helped Lay Foundation for State's Highway System," *Abilene Reporter-News*, 8 April 1956, sect. I, p. 19.



5. Large, white-washed live oaks preserved along a rural highway, Live Oak County, Texas, ca. 1936 (photo: courtesy of the Texas Department of Transportation)

organize these activities (Fig. 5).²¹ Only two other states had similarly established a statewide highway landscape program—Michigan in 1928,²² followed by Oregon in 1929. By the end of the 1930s, several state highway departments employed landscape architects.²³

Long before Texas established a government office to expertly manage its highway landscape, however, roadway landscape development had become the private crusade of various enterprising Texans. In the early 1920s, the Aransas County roadway engineer, a “Mr. Percival,” and a local civic organization planted tamarisk and oleander along the Rockport-Aransas highway.²⁴ Other advocates saw the recreation potential of roadside landscaping. On his own initiative, state highway maintenance worker R. E. Wingate of Woodville built a swimming hole with two bathhouses on three acres of THD property in Newton County. This “first roadside park” opened in July 1930 with two thousand people attend-

²¹ “Address of Mr. Gib Gilchrist,” 9–11; *Roadside Rest Program for California* (195[?]), Texas Department of Transportation, Environmental Affairs Division (hereafter cited as TxDOT-ENV) (photocopy), 39.

²² At least from the late 1910s, the Wayne County Board of Road Commissioners (Detroit area) was systematically planting vegetation along roadways to hide ugly structures and to prevent erosion, with the belief that “attractiveness is an essential contribution to its efficiency...[and] a business asset.” (“Roadside Beautification,” *Engineering News-Record*, 27 June 1929, p. 1016).

²³ Edward N. Hines, “Serving the Traveler by More Attractive Roads,” *Engineering News-Record*, 3 January 1929, pp. 32–34; Jesse M. Bennett, *Roadsides: The Front Yard of the Nation* (Boston: Stratford, 1936), 32; *Roadside Rest Program*, app. 3; Jac L. Gubbels, “Texas Landscapes for Safety: The Psychologic Approach to Highway Planting,” *Landscape Architecture* 59, no. 2 (1940): 63–65.

²⁴ “Value of Scenic Features on Highways,” *Texas Highway Bulletin*, March 1922; A. R. Hirst, “Tourist Traffic as a Factor in Highway Development,” *Texas Highway Bulletin*, March 1923, 1.



6. *Exhibit of native wild flowers, shrubs, and cacti suitable for planting in the arid Panhandle region on display at a women's club flower show in Childress, 1940 (photo: courtesy of the Texas Department of Transportation)*

ing the ceremony. Wingate later built parks at Jasper (1932) and Woodville (1934) and unsuccessfully tried to convince the THD to purchase and preserve sixty-five acres of virgin longleaf-pine forest in East Texas.²⁵

No individual, however, could match the impact of the state's women's clubs in generating interest in the highway landscape. Gilchrist freely admitted to a meeting of the Texas Federation of Women's Clubs that "women have always been behind this movement."²⁶ In the 1920s, local women's and garden clubs advocated the preservation of roadside trees and wildflowers, successfully promoted legislation to ban billboards on the state highway right-of-way, and pushed for the development of a four-mile scenic drive on the San Jacinto Battlefield. In 1933, the president of the Texas Federation of Women's

²⁵ "Ralph Ramos," newspaper clipping, Newton History Center, TxDOT-ENV (photocopy). A historical marker in the Texas Hill Country, however, declares that the "first Roadside Park in Texas" was established in fall 1933 when section foreman William Pape Sr. built a creekside picnic area. This marker was erected in 1968, twelve miles west of La Grange on state highway 71 in Fayette County (newspaper clipping, "First Texas Roadside Park," TxDOT-ENV [photocopy]). Gilchrist claimed Pape was also the first to scatter wildflower seed along a highway roadside.

²⁶ "Address of Mr. Gib Gilchrist," 9–11.

Clubs spoke on highway beautification at the U.S. Good Roads Association meeting, and Gilchrist appointed Jeanette Sorrell of San Antonio to chair the Citizens' Organization for Roadside Beautification and Improvement, a body that would coordinate the efforts of local women's clubs and encourage private citizens to beautify property outside the state highway right-of-way. Their shared goal was to remake Texas as "one vast park" for the upcoming Centennial of Texas Independence in 1936.²⁷ As one participant later recalled,

Texas Garden Clubs cooperated with the Highway Department by collecting wild flower seed for highways so that when the Centennial was celebrated the red of standing cypress, the white of field daisies, and the blue of bluebonnets would call to mind the courage, purity and idealism of Texas heroes. Scenic drives in almost every city were sponsored—living monuments to heroes who blazed out trails in Texas.²⁸

During subsequent years, local garden clubs, which were much more devoted than the THD to the use of native flowering plants in landscape designs (Fig. 6), organized wild-flower shows throughout the state.²⁹ These women ultimately believed that many "country-life problems" could be solved if rural communities enjoyed attractive scenery, especially since these landscape changes were to be "a commercial asset as well as a pageant of beauty."³⁰

But as they did with other aspects of rural highway construction during the 1930s, Texas highway engineers moved to take expert control of the highway landscape itself. Even though these women had "converted calloused, technical minded highway engineers" to the "movement to dress up the state's highways," explained one male roadway advocate, "there was so much ground to cover" on the nation's largest highway system that it could only be "a man's job" to implement these beautification plans. Only then might the Texas highway system "reach the standard of beauty and comfort expected by the traveler of today."³¹ Beginning in April 1933, this "man's job" went to Jacobus "Jac" L. Gubbels, the newly hired chief landscape architect of the new THD Landscape Division (Fig. 7). It was also Gubbels's job to "sell the men" from outlying districts of the THD "on the idea of mass production of beautification."³² Over the next fourteen years, Gubbels pioneered "the youngest of professions, landscape engineering as applied to public highways."³³

²⁷ Ibid.; John Porter Byrum, "The Highway Beautiful," *Texas Parade*, April 1937, 6–7, 28, 30; Texas Federation of Garden Clubs, *Yearbook* (n.p.: Texas Federation of Garden Clubs, 1931), 8.

²⁸ Mrs. John W. Greene, ed., *1928–1948: History of Texas Garden Club, Inc.* (n.p.: Texas Garden Clubs, 1948), 7, 15, 25.

²⁹ Mrs. W. S. Higgins, "What Price Beauty?" *Texas Parade*, October 1937, 4, 5, 18; Mrs. Frank F. Friend, "The Highway Beautiful: West Texas Women Working Hard to Beautify Routes," *Texas Parade*, July 1938, 6, 23–24; THD, Landscape Division, *Discussions on Roadside Development* (n.p., 1940), 19, 28–30, 38–39, 59.

³⁰ Friend, "The Highway Beautiful," 6, 23–24.

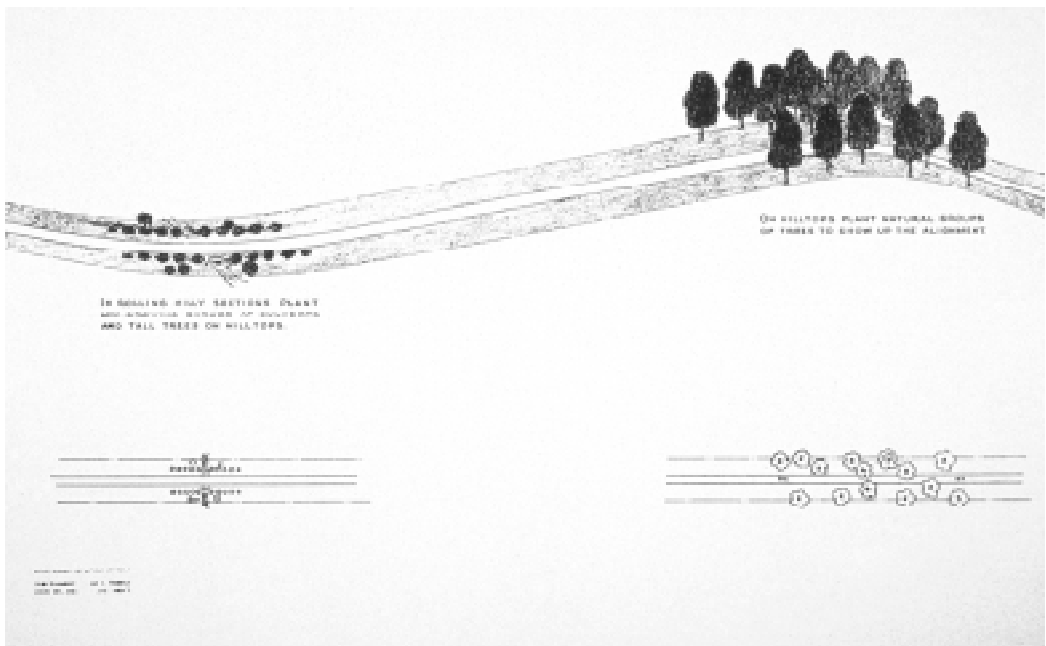
³¹ Byrum, "The Highway Beautiful," 6–7, 28, 30.

³² "Address of Mr. Gib Gilchrist," 9–11.

³³ Gilchrist, memorandum to all division and district engineers, 4 April 1933, THDAC; "On Texas Highways," *Texas Parade*, January 1939, 25.



7. Jac Gubbels, 1930s (photo: courtesy of the Texas Department of Transportation)



8. Landscape plan by Jac Gubbels using planted vegetation to emphasize roadway alignment (from Texas Highway Department, Landscape Division, Suggestions for Roadside Development 1-2 [1935], 10)

Gubbels (1897–1976) was born in Gröningen, The Netherlands. At age twelve, he wrote an essay on the city park system, and he soon became the protégé of the local director of public works, who sent Gubbels on to study landscape architecture in Germany. In 1916, Gubbels journeyed to Sumatra, where he worked as a plantation locater. Although he tried to return to Europe to complete his professional studies in 1922, financial and family concerns forced him to travel to the United States for work. During the mid-1920s, Gubbels obtained jobs with a New Jersey landscape firm, a Michigan group that built an alpine botanical garden, and a Denver planning firm before moving to Houston to open his own landscape design office in 1927. For his first jobs in Texas, Gubbels restored the San Jacinto Battlefield to its 1830s appearance, using old military plans, as well as the grounds around the Sam Houston home in Huntsville—both projects promoted by local women’s clubs. The city of Austin then hired Gubbels to help it spend a \$750,000 bond issue earmarked for parks and boulevards. Recommending that Austin use this money to buy open green space that would require little maintenance, Gubbels supervised the purchase of land along Shoal Creek, Plum Creek, and in Zilker Park—areas that remain important sections of Austin’s celebrated greenbelt system. As a THD employee, Gubbels traveled in 1937 to Germany and Paris to inspect their advanced highway systems.³⁴

In accord with many Depression-era ideals, Gubbels wanted “to build more attractive, safer and convenient highways for less money by taking advantage of natural forces and native materials.”³⁵ In his view, a completed highway should be “in harmony with the surrounding landscape” and avoid artificial “angular, stiff . . . shar[p] lines and corners” and monotonous straight sections, since these defects posed a “mental hazard” to the driver and inscribed “a separate bleeding scar” across the landscape.³⁶ Beautified highways were supposed to make driving safer, since they allowed drivers to heighten their “road focus.” Gubbels’s landscape plans called for wider highways with gentler slopes and the removal or concealment of deep ditches and cuts, intrusive bridges and culverts, ugly borrow pits, and other distractions. He believed lines of trees and shrubs, rather than obtrusive signs, should subtly mark hilltops, curves, bridges, culverts, signposts, intersections, and uninteresting or monotonous road sections (Fig. 8).³⁷

In Gubbels’s scheme, these landscape forms contributed to the efficient function of the highway and the safety of the driver as they controlled “unconsciously the turn of the wheel and the foot-pressure on the accelerator.” In a 1940 article for *Landscape Architecture*, Gubbels recounted riding with a friend and watching him respond to naturalistic markers along a stretch of “modern scientific highway.”

The speedometer was climbing again, this time to 65, as we descended a long slope and sped toward one of those hilltops over which the road seems to disappear

³⁴ Gubbels resigned from the THD in 1947 after fourteen years of service to reestablish his private landscape practice and to formulate the twenty-year master plan for public school sites in Austin. “Texan In Action—A Profile: Design for Living Real with Gubbels,” 30 November 1947, TxDOT-ENV (photocopy).

³⁵ THD, *Discussions on Roadside Development*, 43.

³⁶ T. H. Webb, memorandum from the Landscape Division to all division engineers, 15 January 1937, THDAC.

³⁷ Gubbels, *American Highways and Roadsides*, passim.

completely . . . where death stalks the careless. There were no warning signs at the side of this road. But there was another warning in the trees arching over the roadway ahead, seeming to crowd in from both sides, though not really doing so. They made the road look narrow, made the driver feel that he was going to go through a tight place. I saw my companion's eyes come to rest on that narrow opening, and they never left it. The speedometer began to drop . . . down to 60, 55, 50, 45! By that time we had risen above the crest of the hill and could see the road. The bottle-neck was behind us. The speedometer began to climb. . . . "It works!" I shouted.³⁸

Beautification also meant conservation to Gubbels. By preserving existing trees, shrubs, and wild flowers inside the state right-of-way, new road projects would beautify the Texas highway system for little cost. Drought-resistant vegetation, once planted, required little additional maintenance and held the soil together. According to the environmental thinking of the time, soil erosion was unnatural, so roadways that "worked with nature" and imitated natural contours would necessarily prevent this evil.³⁹ Gubbels's drainage designs tried to eliminate bare, steep slopes and slow water flow. His planting recommendations took local ecological conditions into consideration, although he was not opposed to the use of some non-native plants that are now considered noxious weeds. Nor was he averse to using a diverse array of materials. Highway workers could build diversion dikes from concrete, masonry, piled stone, earth, Bermuda grass, cacti, cane, tamarisk, or willow (Fig. 9).⁴⁰

Like other Depression-era advocates of roadway construction, Gubbels had an expansive vision for his program that meshed with the attitude of many Americans toward "the machine in the garden." He strongly believed that democracy and social stability could not thrive in the city or in a countryside that was isolated; instead, he idealized a middle landscape where pastoral life is served by modern amenities. This vision and his understanding of his own role as an architect of landscape and society were rooted fundamentally in a deterministic view of technology. Accordingly, he believed, "When Russia gets roads and rural electrification she will become a democracy. . . . When the Russian people become independent, democracy will be inevitable."⁴¹

During the 1930s and early 1940s, the THD tried to implement this vision of a democratic and stable middle landscape. To show state legislators the tangible results of their landscape plans, the twenty-five regional districts of the THD compiled hundreds of photographs of actual landscape changes completed by 1937 (several of which illustrate this

³⁸ Gubbels, "Texas Landscapes for Safety," 59–60.

³⁹ Paul Sears, *Deserts on the March* (Norman: University of Oklahoma Press, 1935); William Vogt, *Road to Survival* (New York: William Sloane, 1948).

⁴⁰ THD, Landscape Division, *Suggestions for Roadside Development* 1–2 (1935), 3 (1937); Gilchrist, "Highway Beautification Memorandum #1," memorandum to all division and district resident engineers, 25 May 1933, THDAC; "Discussions on Roadside Development," memorandum to all division and district resident engineers, 25 May 1933, THDAC; THD, *Discussions on Roadside Development*, passim.

⁴¹ "Texan In Action—A Profile"; Marx, *The Machine in the Garden*.



9. Native prickly pear cactus planted to retard ditch runoff, south Texas, December 1936
(photo: courtesy of the Texas Department of Transportation)

article). By 1940, the THD had installed 9,600 planted miles of highway, 13,995 erosion-controlled miles, 15,260 miles with “good or moderate cross-section,” and acquired 119 miles of additional right-of-way for tree preservation. Given such measurable accomplishments, Gilchrist and other state highway officials lauded their new landscape policy as “one of the principal achievements of the Department” during the Depression years.⁴²

The THD engineers could not have accomplished these changes without support, however. At the federal level, road construction in national parks and on other public lands provided inspiration, and a 1934 mandate to spend federal funds on roadside improvements gave added impetus to these landscape programs.⁴³ Meanwhile, state and national work-relief regulations during the 1930s required short, thirty-hour work weeks and encouraged the use of “restrictive hand labor methods” to increase employment on road projects. Many citizens enthusiastically supported these projects because they served local interests all over the state and were ideally suited for temporary employment of unskilled laborers.⁴⁴

⁴² Gilchrist, *Texas Highway Department*, 17–18; THD, *Twelfth Biennial Report*, 57. These photographs are archived in their original folders by the Texas Department of Transportation, Travel and Information Division, Austin, Tex. (hereafter cited as TxDOT-TID).

⁴³ Gilchrist, *Texas Highway Department*, 127, 177a. See Phoebe Cutler, *The Public Landscape of the New Deal* (New Haven: Yale University Press, 1985); Linda Flint McClelland, *Presenting Nature: The Historic Landscape Design of the National Park Service, 1916–1942* (n.p.: National Park Service, 1993); Linda Flint McClelland, *Building the National Parks: Historic Landscape Design and Construction* (Baltimore: Johns Hopkins University Press, 1997).

⁴⁴ Gilchrist, “Method of Handling Employment on Emergency Construction Highway Projects,” memo-



10. WPA masons building the Brazos River Bridge, Palo Pinto County, Texas, 1940 (photo: courtesy of the Texas Department of Transportation)



11. Women's club members dedicating a roadside park with a marker commemorating the Centennial of Texas Independence, Delta County, Texas, ca. 1936 (photo: courtesy of the Texas Department of Transportation)

Such laborers were critical to the construction of the state's masonry highway structures, which exemplified the THD's high-minded intentions and the material reality of the Depression. Built from locally abundant stone, bridges, culverts, and other drainage structures cost relatively little but demanded maximum labor. The most important features of the "all-weather" road, these structures were designed to prevent soil and roadway scour.⁴⁵ In one noteworthy example, approximately 250 unskilled workers and 74 skilled workers employed by the WPA used over 7,200 cubic yards of limestone to build a spectacular 400-foot, eighteen-span bridge over the Brazos River just below the Possum Kingdom Dam and at least eleven other masonry structures. They also improved over twenty-seven miles of adjacent rural highway in Palo Pinto County west of Fort Worth (Fig. 10). Between October 1940 and September 1942, the WPA and the THD paid \$181,065 for 497,071 man-hours of labor out of \$311,089 for the entire project.⁴⁶

While it is obvious that projects like the Brazos River Bridge vigorously attacked local unemployment and dramatically transformed the local landscape, in the minds of their builders these structures also helped root new roadway construction to the existing natural and vernacular landscape by incorporating rustic or naturalistic architectural forms.⁴⁷ New state specifications for stone masonry adopted during the 1930s thus required that "methods used shall . . . produce an attractive stratified-type of masonry," with all exposed faces "neatly broken with the hammer" and tool marks removed "to produce a natural appearance" that approximated the rocky outcroppings and masonry buildings common to many parts of Texas.⁴⁸ In the dramatic case of the Brazos River Bridge (which still

random to all division engineers and district resident engineers, 27 September 1932, THDAC; Gilchrist, "Contractors' Payrolls on Emergency Construction Projects," memorandum to all division engineers and district resident engineers, 27 September 1932, THDAC; F. P. Sexton, "Emergency Construction 1933," memorandum to Gilchrist, 4 January 1933, THDAC; G. G. Edwards, "Emergency Federal Aid Projects," memorandum to all division engineers, district resident engineers, and resident engineers, 14 January 1933, THDAC; "N.R.W.R. Projects: Introduction and General Plan," September 1935, THDAC.

⁴⁵ In general, the THD estimated that masonry structures cost 21 percent more to build but required 300 percent more labor. D. C. Greer, road design circular no. 6-41 to all district engineers, 26 April 1941, State Highway Department WPA Papers, THDAC.

⁴⁶ WPA Texas project folders, no. 16344, National Archives, microfilm C-299.

⁴⁷ These words have often been used interchangeably, although *rustic* is often used to refer to a specific design aesthetic. "Rustic construction" can refer (1) simply to appearance, (2) to use of indigenous or pioneer construction techniques and materials, (3) to use of building materials and techniques according to conservationist principles, (4) to the integrated adaptation of building forms to the landscape problems of topography, vistas, available materials, local plant life, and local building traditions, or (5) to a particular informal school of architectural design called "government rustic." For discussion of these points, see Cutler, *The Public Landscape of the New Deal*, 77–78; McClelland, *Presenting Nature*, 11, 261–62; McClelland, *Building the National Parks*, 433–34; William C. Tweed, Laura E. Soulliere, and Henry G. Law, *National Park Service Rustic Architecture: 1916–1942* (n.p.: National Park Service, Western Regional Office Division of Cultural Resource Management, 1977), i, 106; James Wright Steely, with Joseph R. Monticone, *The Civilian Conservation Corps in Texas State Parks* (n.p.: Texas Parks and Wildlife Department, 1986), 8–17.

⁴⁸ THD, *Standard Specifications for Road and Bridge Construction*, 527–29; see also Gubbels, *American Highways and Roadsides*, 9, 44–45; *Discussions on Roadside Development*, 19, 28–30, 38–39, 45.



12. Texas–New Mexico state boundary marker, Dallam County, Texas, ca. 1936
(photo: courtesy of the Texas Department of Transportation)



13. Cadets on duty at the rustic Joaquin Information Office, Shelby County, Texas, ca. 1936
(photo: courtesy of the Texas Department of Transportation)

stands today), THD designers juxtaposed an ancient engineering design with a modern concrete dam to create one of the state's greatest achievements in landscape construction.

Texas Oases—Roadside and State Parks

Rustic masonry forms, landscape improvements, and highway construction, in general, fit well with plans to promote the natural beauty and historical heritage of Texas and encourage automobile tourism during the Centennial of Texas Independence in 1936. To this end, the THD placed 264 granite markers throughout the state at planted turnouts meant to create "small beauty spots along the highway" (Fig. 11). All of the centennial markers incorporated the Texas Lone Star, a favored symbol in the design of buildings and gardens in Texas commemorating its former status as an independent republic.⁴⁹ On important highways crossing the state border, workers built twenty-three stone boundary markers (Fig. 12), and the THD installed thirteen tourist information centers that imitated the vernacular architecture of their locale (Fig. 13). Each of the THD districts eliminated "careless storage of equipment and junk" and contributed to the lavish landscaping of each division office, which sometimes included living exhibits (Fig. 14). In these ways, the highway department associated itself and roadway construction with three potentially contradictory notions: Texas nationalism, social stability, and progress in the past, present, and future.⁵⁰

During the 1930s, Texas women's clubs and the THD also teamed up to build hundreds of roadside picnic areas and turnouts as way stations between tourist attractions and urban areas. Roadside parks provided a valuable service in the days before fast food, efficient radiators, and air conditioning. They supplied weary drivers with places along rural highways to briefly rest, prepare food, and eat at regular intervals (Fig. 15). In Gubbels's view, these "natural outdoor niches" also improved the "mental attitude of the motorist" and made the highways safer by providing "panoramic vistas, good trees, protection from sun and wind, proximity to streams, and other advantages."⁵¹

A local civic organization, such as the local garden club, typically made arrangements for the THD to take possession of a donated plot of land. When it could, the THD used work-relief crews from the National Youth Administration to clear, landscape, sod, and gravel these roadside parks. More skilled workers would then furnish the parks with rustic

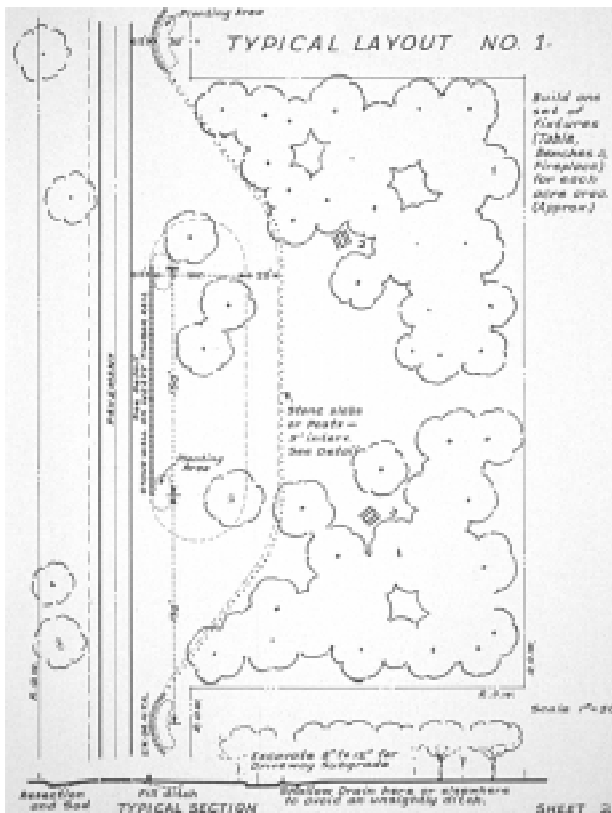
⁴⁹ The original centennial markers cost \$150 each, and they commemorated the following: 220 county histories, 10 battlefields, 7 towns, 10 stage line or cattle trail crossings, 5 forts, 3 ferries, 2 churches, and a home, mission site, school, grave, bridge, mountain, and early exploration route. Gilchrist, *Texas Highway Department*, 18, 209, 214; *Monuments Erected by the State of Texas to Commemorate the Centenary of Texas Independence* (Austin: Commission of Control for Texas Centennial Celebrations, 1938).

⁵⁰ "First Thing Traveler Sees in Texas," 1938 newspaper clipping from scrapbook by Ben Lednicki, and "Early-Starting Days with the Highway Department, Paris District, 1937-1942," TxDOT-TID; Gilchrist, *Texas Highway Department*, 17-18, 129-31; Julian Montgomery, landscape circular letter no. 2-38 to all division engineers, 29 April 1938, THDAC; THD, *Eleventh Biennial Report* (n.p., 1938), xx-xxii, 23-24. See also, Kenneth Baxter Ragsdale, *The Year America Discovered Texas: Centennial '36* (College Station: Texas A & M University Press, 1987).

⁵¹ THD, *Discussions on Roadside Development* 3, 22-29.



14. Members of the Alabama-Coushatta tribe admiring the lake on Division 11 grounds, Angelina County, Texas, ca. 1936 (photo: courtesy of the Texas Department of Transportation)



15. Standard plan no. 1 for a roadside park (from THD, Suggestions for Roadside Development 1 [1935], 2)

structures according to Gubbels's designs—fences, rails, guard walls, steps, picnic tables, benches, fireplaces and rubbish burners. Some parks even contained elaborate pools, fountains designed to provide sanitary water, or shelters; others presented scenic vistas. As with his plans for highway landscaping, Gubbels specifically promoted masonry construction in roadside parks because it was inexpensive to build, long lasting, and “natural,” although he allowed the use of concrete as long as it was disguised as wood or masonry (Fig. 16). Texas became a national model for construction of roadside rest areas: between 1929 and 1940, the THD installed 478 roadside parks larger than a half acre and 277 parks and turnouts smaller than a half acre.⁵²

While impressive in scope and design, these roadside parks “of the utmost simplicity” hardly compared to the “monuments to pioneer southwestern courage” built by youth employed by the Civilian Conservation Corps (CCC) off Texas highways. Besides developing what became Big Bend National Park, the CCC built fifty-six parks in Texas between 1933 and 1942, thirty-one of which make up the core of the Texas state park system today.⁵³ Following federal policy, the CCC built “one well-built, low-speed, scenic through road” in most of these parks, including the seventeen-mile drive through the “Lost Pines of Texas” between Bastrop and Buescher State Parks.⁵⁴ CCC workers meticulously laid out these roadways to follow the contours of a picturesque landscape and crafted bridges and culverts to match the rustic styling of other park buildings (Fig. 17). Refectories, cabins, pools, and shelters built by the CCC in Texas parks to look like “the work of another age” still display some of the finest rustic masonry architecture in the United States. Several of these parks were established explicitly as roadside attractions, such as “the largest outdoor swimming pool in the world” at Balmorhea Springs State Park, which replaced San Solomon Spring in Reeves County (Fig. 18).⁵⁵

Like Gubbels, CCC architect Arthur F. Fehr, the principal designer of Bastrop and Fort Davis State Parks, believed the roadway environment had a strong impact on drivers. In his view, tourists left “the machine age” behind as soon as they drove past “individually hand tooled stone” at the park gate (Fig. 19).⁵⁶ For Fehr, THD engineers, and many other

⁵² Ibid., 31; THD, *Twelfth Biennial Report*, 57; Charles E. Simons, “Traveler’s Oasis: The Story of Texas’ Roadside Parks,” *Texas Parade*, September 1936, 3–5, 24–25; J. Rex Ritter, “Worthy Public Works,” *Texas Parade*, October 1937, 19; “On Roadside Parks: ‘Golden State’ Admits Superiority of Texas,” *Dallas Morning Herald*, 20 August 1950, TxDOT-ENV (photocopy).

⁵³ See Steely and Monticone, *Civilian Conservation Corps*, 2–17; Cutler, *Public Landscape*, 67–69, 99, 101; Kenneth E. Henderson Jr., “The Civilian Conservation Corps in the Southwestern States,” in *The Depression in the Southwest*, ed. Donald W. Whisenhunt (Port Washington, N.Y.: Kennikat Press, 1980), 3–25; John A. Salmond, *The Civilian Conservation Corps, 1933–1942: A New Deal Case Study* (Durham, N.C.: Duke University Press, 1967); James Wright Steely, *Parks for Texas: Enduring Landscapes of the New Deal* (Austin: University of Texas Press, 1999).

⁵⁴ See Cushman, “Depression-Era, Work-Relief Road Projects in Bastrop County, Texas.”

⁵⁵ James J. Flink, *The Automobile Age* (Cambridge, Mass.: MIT Press, 1988), 171–82; Cutler, *Public Landscape*, 55–56; Steely and Monticone, *Civilian Conservation Corps*, 14–15.

⁵⁶ Like Gubbels, Fehr also worked before the Depression to restore some of the most important historic sites in Texas. He assisted with the restoration of the missions, Spanish governor’s palace, and Juvenile Home for Boys in San Antonio. Arthur F. Fehr, “Bastrop’s State Park,” *Bastrop Advertiser* (Texas), 22 February 1934, p. 1; “Arthur Fehr Is Sent to Fort Davis,” *Bastrop Advertiser*, 17 May 1934, p. 1.



16. Tables and benches constructed from concrete to imitate natural logs, an art of reproduction known at that time only to a few Mexican Americans around San Antonio, roadside park, Wilson County, Texas, October 1934 (photo: courtesy of the Texas Department of Transportation)



17. Rustic bridge hewn to span a stream in Caddo State Park, Harrison County, Texas, October 1936 (photo: courtesy of the Texas Department of Transportation)

highway advocates, “communion with nature” by automobile was not only possible but conducive to serving a broader purpose. Well-designed roads established the vital link between parks and the population centers that provided the necessary philosophical, economic, and political support for land conservation, the construction of rural highways, and the preservation of rural society.⁵⁷ These Texas oases were intended to sustain present society as they provided for an abundant future, rooted in the natural world.

Blessed Be the Ties That Bind

During the Depression, Texans willingly decided to concentrate power in the hands of a few to spread prosperity among many. Locals practically relinquished total control over road construction to the THD, which emerged from the Depression in a much stronger position on the state political landscape (a status reflected in the completion of the monumental Greer State Highway Building across from the state capitol in 1936). In their battles against soil and social erosion, THD engineers consolidated their own position most of all.

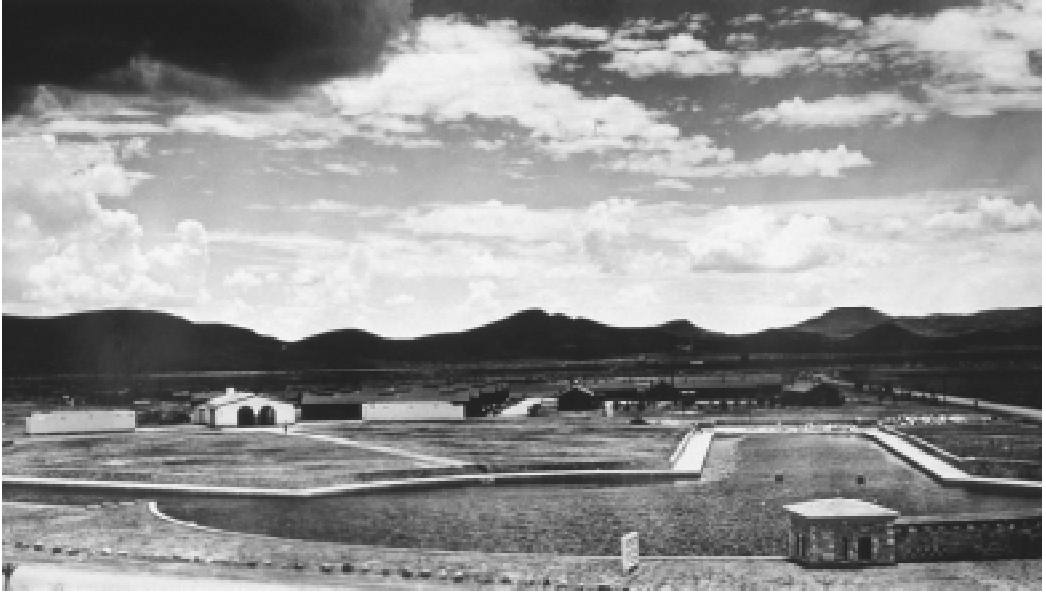
Although Depression-era highway engineers as landscape architects surely prevented damaging roadway and soil scour, their highway projects unintentionally contributed to other kinds of erosion. High-speed highways often fragmented areas of natural vegetation and radically transformed the natural habitat of the narrow country lane, posing a great danger to wildlife (with the exception of carrion feeders).⁵⁸ Likewise, as Jack Kirby argues in *Rural Worlds Lost*, the advent of good roads in the rural South dramatically changed the patterns of rural life. For example, families began “living out of bags” from supermarkets instead of growing their own food for subsistence or purchasing goods at the country store.⁵⁹ Against the hopes of its promoters, rural road construction hardly kept the children of rural inhabitants bound to the land, and it may have even encouraged rural emigration over the long term. Following the professional engineering orthodoxy of the time, Gilchrist and other highway engineers mandated that the traffic load of automobile users determine when and where new and bigger highways needed to be built. Thus, it is hardly surprising that Gubbels had a plan ready for a landscape that is quite familiar to us today—“sections of Rural Highways with heavy traffic” of the type “known as the freeway.”⁶⁰

⁵⁷ Roscoe E. Wright, “Texas: A State of Beautiful Parks,” *Texas Parade*, June 1936, 14–15, 22; Harry van Demark, “Uncle Sam’s Newest Playground,” *Texas Parade*, October 1936, 6–8; Lionel Beck, “In Memory of—’: Two Historic Texas Parks,” *Texas Parade*, November 1936, 28; James T. Gray, “Garner State Park,” *Texas Parade*, February 1937, 26.

⁵⁸ According to current environmentalist orthodoxy, highway construction and the automobile have undoubtedly had many adverse ecological consequences. But Depression-era highway engineers were certainly attuned to cutting-edge conservationist thinking at the time, so it is difficult to say, from this historical precedent, how landscape projects in line with present science will fare in the future, particularly as our ecological judgments change, as noted by Robert Cook in this volume.

⁵⁹ On the impact of the automobile on rural Southern society, see Jack Temple Kirby, *Rural Worlds Lost: The American South, 1920–60* (Baton Rouge: Louisiana State University Press, 1987), 115–18, 130–31, 153–54, 163, 181–85, 193–95.

⁶⁰ “Address of Mr. Gib Gilchrist,” 9–11; THD, Landscape Division, *Types of Motorways* (n.p., 1938), 9.



18. Balmorhea Springs State Park pool after development by the CCC, Reeves County, Texas, ca. 1937 (photo: courtesy of the Texas Department of Transportation)



19. Park entrance gate at Bastrop State Park, Bastrop County, Texas, 1996

Highway engineers prescribed and rendered valuable therapy for soil and social erosion in the Texas countryside during the Depression, but they provided no cure for the environmental or social changes that transformed rural Texas in subsequent years. Today, for better or for worse, we are bound by these ties to the past. Thanks to the continuing advocacy of highway engineers and activists such as Lady Bird Johnson, Texas today has one of the largest networks of paved, all-weather rural roads in the world, and spring wildflowers and state parks make scenic highways a major destination for tourists. But as rural transportation has changed, particularly with the implementation of the farm-to-market and interstate highway systems after World War II, many of the Depression-era roadside parks and highway landscapes were abandoned or replaced by even grander engineering projects. Today, the Texas Historical Commission and the Texas Department of Transportation are working toward identifying and preserving the intact remnants of Depression-era construction on the Texas highway system to preserve the memory of this generation of Texas trailblazers.

The Texas highway construction movement solidified the position of planners as key architects of modern American life. Engineers as landscape architects extended their control over the highway environment to the spaces that bordered it in accord with the needs of society and the environmental limits of a middle landscape that formed the shared horizon of both rural and urban Texans. The movement also helped to strengthen the position and influence the mission of later landscape professionals and contributed in a roundabout way to the birth of the professional environmental mitigator, empowered to protect the environment.⁶¹

The conceptualizations of Texas's landscape architects, while critical, only partially account for the transformation of the state's Depression-era roadway landscape. Its evolution was influenced by forces as intangible as the psychological effects of roadside vegetation on a driver's actions and as concrete as the impact of too much rain on a transportation system. While educated male professionals increasingly directed this process, they were fundamentally influenced by women garden enthusiasts and dependent on the skills and labor of thousands of unemployed workers as well as on funding from the federal government. These diverse elements were unified by a single mission—to prevent the erosion of the state's agrarian society by adapting technological progress to local environmental con-

⁶¹ The famed Ian McHarg owes much of his success to the ideas and gains of this earlier generation of experts; see the essays by Anne Whiston Spirn and Elizabeth Meyer in this volume. See also Samuel Hays, "The Middle Ground: Management of Environmental Restraint," in *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955–1985* (Cambridge: Cambridge University Press, 1987), 392–426. Some of the ideas promoted by recent environmentalists and landscape architects as "new," particularly the focus on social processes as a foundation for environmental action, were originally conceived and implemented by engineers of the Texas highway construction movement. Thus, this essay reinforces some of the analytical themes developed by Jeffrey Hyson in this volume regarding the divergent horizons and histories of American environmentalism. I also argue, somewhat differently from Brian Black in this volume, that the policies of cultural manipulation and environmental conservation ascribed to the New Deal were products of a progressive ideology already shared by many Americans that coexisted with a widespread fear of radical change. The social and environmental upsets of the 1930s provided a genuine impetus to New Deal programs, which provided an opportunity to implement core elements of this ideology.

straints, and the shared needs and desires of Texans. Together, these elements combined to form the present roadway system in Texas, to help institutionalize the landscape architecture profession, and to provide the state with some of its most valued green spaces. These achievements, however, were not without costs. With this in mind, analysts of the landscape architecture profession might wish to focus less attention on the intentions of environmental designers and pay closer heed to the historical forces that can constrain implementation of designs and influence long-term consequences. Knowledge of these “ties that bind” us should humble and inspire present-day landscape experts as they attempt to prevent erosion of the natural environment, preserve relics of the past, and shape human life today.